

E7.2 - 1 0.3.6 0
CR-129722

Type I Progress Report No. 2 (1 November - 31 December 1972)

NTIS \$3.00

Inventory and Monitoring of Natural Vegetation and Related Resources in an
Arid Environment by the Use of ERTS-A Imagery (Proposal No. 311)

Barry J. Schrupf, Rangeland Resources Program, Oregon State University,
Corvallis, Oregon, 97331. (UN 618)

Our investigation involves analysis of ERTS-1 data for a primary and a
secondary test site. During this reporting period the vegetation types of
the primary site were identified. This represents an extremely important
accomplishment on this project; utilization of a vegetation legend is an
integral part of all our planned ERTS-1 analyses. In addition, a photo
interpretation testing procedure has been designed that will be used to
partially achieve the goals stated in Objective 1 of our "Statement of Work."

Paper presented during this reporting period:

"Vegetation-Terrain Feature Relationships in Southeast Arizona"

By David A. Mouat

In: Proceedings, International Conference on Remote Sensing in
Arid Lands, November 8, 9, and 10, 1972, University of Arizona,
Tucson, Arizona.

(E72-10360) INVENTORY AND MONITORING OF
NATURAL VEGETATION AND RELATED RESOURCES
IN AN ARID ENVIRONMENT BY THE USE OF
ERTS-A B.J. Schrupf (Oregon State
Univ.) 31 Dec. 1972 4 p CSCI 08F

N73-14348

Unclas

G3/13 00360

Inventory and Monitoring of Natural Vegetation and Related Resources in an Arid Environment by the Use of ERTS-A Imagery (Proposal No. 311), Barry J. Schrupf, Oregon State University, Corvallis, Oregon.

The following significant accomplishments were realized during this reporting period. Field data collected on 500 sites prior to the start of the current project was analyzed to establish a vegetation classification for our primary test site. It is an area of approximately 3200 square miles with Tucson, Arizona, in the northwest corner and Willcox Playa in the northeast. The vegetation of this region includes representatives of, or shows the influences of, the Sonoran and Chihuahuan Deserts, shortgrass prairie, Arizona chaparral, juniper-oak woodland, and pine forest. Twenty-nine vegetation types have been recognized; they are listed in Figure 1.

Figure 1. Vegetation Types of the Tucson Study Area

Larrea tridentata with or without annuals

Larrea tridentata with *Prosopis juliflora*, *Zinnia pumila*, and/or *Opuntia* (chollas)

Cercidium microphyllum and *Cereus giganteus* often with *Encelia farinosa* and *Opuntia* and without *Franseria deltoidea*

Atriplex canescens and *Prosopis juliflora*

Coldenia canescens, *Zinnia pumila*, *Fouquieria splendens*, and *Tridens pulchellus*

Prosopis juliflora and *Haplopappus tenuisectus* with *Opuntia* (chollas)

Prosopis juliflora and *Haplopappus tenuisectus* without *Opuntia* (chollas)

Acacia constricta and *Calliandra eriophylla* usually with *Prosopis juliflora* and *Fouquieria splendens*

Acacia constricta and *Prosopis juliflora* usually with *Opuntia* and without *Calliandra eriophylla*

Acacia vernicosa, *Flourensia cernua*, and *Larrea tridentata*, without *Rhus microphyllum* and *Dalea formosa*

Acacia vernicosa, *Flourensia cernua*, *Larrea tridentata*, and *Rhus microphyllum*

Aloysia wrightii usually with *Fouquieria splendens*, *Acacia constricta*, and *Opuntia* (prickly pear)

Mortonia scabrella with *Rhus choriophylla*; often with *Cercocarpus brevifolius*

Mortonia scabrella without *Rhus choriophylla*; often with *Larrea tridentata*, *Parthenium incanum*, and/or *Zinnia pumila*

Prosopis juliflora and *Bouteloua* without *Quercus* and *Juniperus*

Prosopis juliflora and *Bouteloua* with *Quercus* (usually *Q. oblongifolia*) and/or *Juniperus*

Bouteloua and *Aristida* with *Nolina microcarpa*

Bouteloua and *Aristida* without large shrubs, *Nolina microcarpa*, or *Yucca*

Figure 1. (Continued)

Bouteloua and *Calliandra eriophylla* usually with *Prosopis juliflora*
and *Aristida*, and without *Acacia constricta*

Prosopis juliflora bosque

Sporobolus wrightii often with *Prosopis juliflora*

Hilaria mutica and *Prosopis juliflora*

Cercocarpus brevifolius with *Juniperus deppeana* and/or *Pinus cembroides*
and usually with *Quercus*

Quercus, *Arctostaphylos pungens*, *Pinus cembroides*, *Juniperus deppeana*;
without *Mimosa biuncifera*

Quercus and *Arctostaphylos pungens* usually with *Mimosa biuncifera*;
without *Pinus cembroides*

Cowania mexicana usually with *Juniperus*

Quercus and *Mimosa* without *Arctostaphylos pungens* or *Cercocarpus*
brevifolius

Pinus, with or without *P. cembroides*, often with *Pseudotsuga menziesii*,
Quercus hypoleucoides, and *Q. gambelii*

Populus fremontii, *Platanus wrightii*, and/or *Fraxinus velutina*

